

a movable finger attached to the movable element, the movable finger having a second short portion proximate to the movable element and a second tall portion distal from the movable element.

### REMARKS

Claims 17, 18, and 22-31 are cancelled in light of the Restriction Requirement mailed September 11, 2002 with reservation to pursue claims 17, 18 and 22-31 in a division application(s). Election of Group I claims 1-16 and 19-21 is hereby confirmed. Thus, claims 1-16 and 19-21 are pending. Claims 1-4, 7-16, and 19-21 stand rejected; and claims 5 and 6 are objected to. The Applicants sincerely thank the Examiner for indicating the allowability of claims 5 and 6.

Claim 5 has been rewritten in independent form to include the limitations of the base claim, and claim 6 has been amended to depend from claim 5. The undersigned believes these amendments do not add new matter and put claims 5 and 6 in condition for allowance.

Claim 19 has been amended to more particularly point out the invention and to correct antecedent basis. Support for this amendment is found in as-filed claim 1, and on page 6, lines 8-16 and on page 8, line 27 - page 9, line 1 of the Written Description. The undersigned believes this amendment does not add new matter.

### Rejections under 35 U.S.C. § 102(e)

Claims 1-3 and 7-10 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,351,201 by Foster (hereinafter "Foster"). The Examiner cites Foster for disclosing a bi-stable electrostatic actuator. The Foster patent application was filed on April 3, 2001 whereas the instant application was filed before the Foster patent application, on March 16, 2001. However, Foster claims priority from U.S. Patent Application Serial No. 09/764, 919 (hereinafter the "919 application"), filed January 17, 2001.

Section 102(e)(2) of 35 U.S.C. states that a person shall be entitled to a patent unless the invention was described in "a patent granted on an application for patent by

another filed in the United States before the invention by the applicant for patent." Thus, in order to maintain these rejections, the '919 application would have to anticipate claims 1-3 and 7-10. A certified copy of the as-filed '919 application was obtained from the U.S. Patent and Trademark Office, certified February 3, 2003 by W. Montgomery. The undersigned reviewed the as-filed '919 application and believes that it does not disclose or suggest claim 1 or any claim that depends from claim 1. Therefore, the Applicants believe claims 1-3 and 7-10 are allowable and respectfully request withdrawal of these rejections and reconsideration of the claims.

A copy of the substantive portion of the '919 application is enclosed for the Examiner's convenience. The undersigned notes that right-most portion of Fig. 1A was truncated in the certified copy.

#### Rejections Under 35 U.S.C. § 102(b)

Claims 19-22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,769,531 to Elkuch. The Examiner cites Elkuch for disclosing an electrostatic actuator with an electrode having a short portion and a tall portion at the tip of the electrode, where the tall portions are adjacent to each other. The Applicants respectfully traverse the Examiner's position.

Claim 19 recites, among other elements, an electrostatic comb drive having a fixed finger attached to the base and a movable finger attached to a movable element. As described in the Written Description (Page 6, lines 28-32) electrostatic comb drives according to embodiments of the present invention generally include at least one set of moveable fingers and one set of fixed fingers, the two sets being interdigitated. When a voltage is applied between the two sets of fingers, the movable fingers will be pulled toward the fixed fingers by electrostatic action. Elkuch does not disclose an electrostatic comb drive, but rather relates to an electro-mechanical oscillator. The electrode **20** of the vibrating member **21** vibrates between the outer electrodes **18, 19**. The undersigned respectfully submits that the system disclosed in Elkuch does not disclose or suggest the movable element recited in claim 19. In particular, Elkuch states that the tongue **21** is rigidly connected between two insulating blocks **30**, and that the outer electrodes are

attached to the carriers **25**, which are fastened to the blocks **30**. Col. 1, line 65 - Col. 2, line 8.

Claim 19 has been amended to affirmatively recite that the movable element is configured to move from a first position to a second position relative to the base. As recited, a fixed finger is attached to the base, and a movable finger is attached to the movable element. In the system described in Elkuch, the electrode **20** oscillates between the outer electrodes **18, 19**, but there is no movable element the moves from a first position to a second position relative to the base. Therefore, the Applicants believe that claim 19, and all claims that depend from claim 19, are allowable, and respectfully request reconsideration of claim 19 and the removal of this rejection.

#### Rejections Under 35 U.S.C. § 103

Claims 4 and 11-16 are rejected under 35 U.S.C. § 103(a) as being obvious over Foster in light of various references. The undersigned believes that Foster is not prior art for the reasons given above in support of claim 1. The Applicants respectfully request reconsideration of these claims and removal of these rejections.

Version of Amended Text Showing the Changes Made

The following marked-up claims show the changes made to arrive at the substitute claims shown above:

5. [AMENDED] An electrostatic comb drive comprising  
a base;  
a movable element movably connected to the base and configured to move  
from a first position to a second position relative to the base;  
a spring disposed between the base and the movable element and  
configured to provide a potential energy maximum between the first position and the  
second position;  
a fixed finger attached to the base, the fixed finger having a first portion  
proximate to the base and disposed between the base and a second portion of the fixed  
finger; and  
a movable finger attached to the movable element, the movable finger having a third  
portion proximate to the movable element and disposed between the movable element  
and a fourth portion of the movable finger, a first capacitance arising between the fixed  
finger and the movable finger when the second portion is adjacent to the fourth portion  
and a second capacitance arising between the fixed finger and the movable finger when  
the second portion is adjacent to the third portion, the first capacitance being greater than  
the second capacitance **[The electrostatic comb drive of claim 1]** wherein the second  
portion is taller than the first portion and the fourth portion is taller than the third portion.
6. [AMENDED] The electrostatic comb drive of claim [1] 5 wherein the second  
portion is at least three times as tall as the first portion
19. [AMENDED] An electrostatic comb drive comprising:  
a base;

a movable element configured to move from a first position to a second position relative to the base;


a fixed finger attached to the base, the fixed finger having a first short portion proximate to the base and a first tall portion distal from the base; and  
a movable finger attached to the movable element, the movable finger having a second short portion proximate to the movable **[portion]** element and a second tall portion distal from the movable element.

### Conclusion

In view of the foregoing, the Applicants believe all claims pending in this Application are in condition for allowance, and that the Applicants are entitled to the claims in accordance with the Title 35 of the United States Code and Art.1, §8, cl.8 of the Constitution of the United States. The Applicants respectfully request reconsideration of all pending claims, the withdrawal of all rejections, and the issuance of a formal Notice of Allowance at an early date.

If the Examiner believes this amendment does not put all pending claims in condition for allowance, the undersigned invites the Examiner to telephone the undersigned at (707) 591-0789.

Respectfully submitted,

  
Scott Hewett  
Reg. No. 41, 836

Scott Hewett  
Patent Attorney  
400 West Third Street, No. 223  
Santa Rosa, CA 95401  
Tel: (707) 591-0789  
Fax: (707) 591-0392